

# Virginia Gardening

*with Jim May*

Sponsored by the Virginia Green Industry Council

---

## **Don't count on Mother Nature to water newly planted trees and shrubs**

Scattered thunderstorms in the summer always get me to thinking about how important it is to water our landscape plants and not count on Mother Nature to do it. These showers are so hit-or-miss that some areas get deluged and others not a drop. Many of our landscape plants experience that same "all or nothing" phenomenon.

We tend to over water our indoor plants and underwater our landscape plants. In fact, the leading cause of death of landscape plants is under watering (planting too deep runs a close second).

Why do we drown houseplants and deprive our landscape plants of something so essential to them? It's partly because houseplants and other herbaceous plants show us they need water almost immediately by wilting.

Woody plants such as trees and shrubs can be moisture-stressed for a week or more before showing any signs. The fact is that every life process in every plant including seed germination, water uptake, transpiration, respiration, photosynthesis, stomatal closure, nutrient transport, root and shoot growth, flowering and fruit production is dependent on the presence of water.

All plants send out tiny feeder roots in response to the presence of moisture. Some of these roots are smaller than a human hair. No matter how big the plant is it depends on these minute roots to transport the vast majority of its water and nutrient needs.

All plants have an actively growing area of dividing cells located close to the surface called the cambium. In a tree, it is just under the bark. This thin living layer of cells divides constantly, creating new cells. The cambium layer is so thin it is only one or two cells thick, yet so vital to the existence of a plant that if its continuity is broken, the plant can die.

The point to all this is that even the most massive tree is dependent on roots the diameter of a human hair and a growing area one cell thick. So do we need to water our newly transplanted trees and shrubs? You bet!

Most of a tree's vital feeder roots are in the top twelve to eighteen inches of soil. When a tree is dug at the nursery, more than half of its root system is left behind. The reduced root system causes stress and reduced growth in recently transplanted trees and regular watering is critical.

The soils in which balled and burlapped (B&B) and container-grown plants have grown are very different than the soils we plant them in at home. As a result, water does not move readily between these different media. It is most important that water be applied to both the root ball and the surrounding soil during the critical establishment period.

Container-grown plants are grown in a soil less medium that dries out quickly and will need water even more often than B&B plants. Roots grow only where there is moisture, and unless both media are moist the roots may never grow out of the original nursery soil. Plants in such a situation may never form new root hairs and simply die. Roots may also just continue to grow in a circle, girdling the plant. Check soil drainage before planting a new tree or shrub. If the soil is high in clay, amend with organic matter, plant higher, or provide drainage.

A good rule of thumb for the establishment period of a newly transplanted tree is: for every inch of trunk diameter, the tree needs one year to become established. So, a two-inch diameter tree will take two years. If you want your new investment to thrive and not just survive, you need to water that tree for a minimum of one year. Ideally, supplemental water should be provided for the entire establishment period.

How often and how much water to add each time is a function of soil drainage, rain, temperature (or time of year) and trunk diameter. A newly planted shrub or tree should be watered several times the first week, then at least weekly until established. Another rule of thumb is: apply one to two gallons of water per inch of trunk diameter each time a tree needs water. Common sense should also prevail in this case. A tree will need more water in a droughty summer than in a wet winter, for example.

Before you even plant a tree or shrub, you should plan ahead how you will water it. Will you use a soaker hose, garden hose or have to haul buckets? Try to group your plants by water needs. The ones that need the most water in one area, the less thirsty ones in another area. Don't forget to mulch well.

Trees may be the oldest and largest living things on earth, but remember that the ones we transplant into our landscapes need nurturing and protecting or these gentle giants simply won't survive.